PHIN VOCABULARY METADATA STANDARDS

Version 1.0

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VERSION HISTORY

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1. PHIN VOCABULARY METADATA STANDARDS OVERVIEW

1.1. OVERVIEW AND OBJECTIVE

The target audience and intended users of this document are CDC Programs participating in the Public Health Information Network.

Use of agreed-upon vocabulary metadata across PHIN enables data from different programs to be consistently documented so that users can more easily understand PHIN vocabulary. This leads to a heightened ability to semantically understand PHIN data and increases the interoperability of data across PHIN. For example, requiring that all PHIN data share a consistently described "Definition" metadata element allows a straight-forward comparison of one PHIN data element's definition to another PHIN data element's definition.

PHIN Vocabulary metadata standards are based off ISO 11179 standards for data elements. The vocabulary objects for which these metadata standards apply are drawn from HL7's Common Terminology Server (CTS) vocabulary model.

PHIN Vocabulary has developed a metadata model of required and optional attributes for Code Systems, Code System Concepts, Value Sets, and Value Set Concepts. CDC internal authors of PHIN compliant vocabularies will utilize this model in creating and expanding code systems and value sets.

1.2. KEY TERMS

In order to establish a common understanding in the remainder of this document, the following definitions are provided:

Code System – A terminology, thesaurus, vocabulary, nomenclature, or classification that uses codes for designating concepts. Examples of code systems are LOINC and SNOMED.

Concept – A unit of thought constituted through abstraction on the basis of properties common to a set of objects.

Metadata: - Data that defines and describes other data. E.g. the title, subject, author, and size of a file constitute metadata about the file.

Composite Concept:
A concept composed as an expression made up of atomic concepts linked by Semantic Representations (such as Roles, attributes or links).
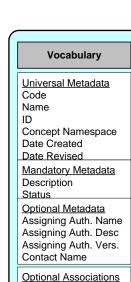
Standards Development Organization (SDO) - A nationally sanctioned body that uses a consensus process to develop approved standards. There are many SDOs that the CDC has, or could have, interaction with.

Value Set - an arbitrary collection of concepts. Value sets often contain logically related concepts (e.g., Race, Gender).

2. PHIN VOCABULARY METADATA MODEL

2.1. PHIN VOCABULARY METADATA MODEL DIAGRAM

PHIN Vocabulary Metadata

Vocabulary

Universal Metadata
Code
Name
ID
Concept Namespace
Date Created
Date Revised
Mandatory Metadata
Description
Status
Optional Metadata
Assigning Auth. Name
Assigning Auth. Desc
Assigning Auth. Vers.
Contact Name

Optional Associations
Code System
Value Set

Purpose of the Model
This metadata model focuses on the metadata needed to represent vocabulary objects required by HL7 CTS: Vocabulary, Code System, Code System Concept, Value Set, and Value Set Concept.

Required and Optional Metadata
All vocabulary objects will have the Universal Metadata fields. Mandatory and optional metadata are specific to each vocabulary object. Programs and projects may add additional metadata as their needs dictate.

Metadata and Associations
Each vocabulary object has two types of properties: the *metadata* for the vocabulary object, such as its name and its date created, and the *associations* which define its connections to other vocabulary objects.

Sample Object

Universal Metadata
Same for all objects

Mandatory Metadata
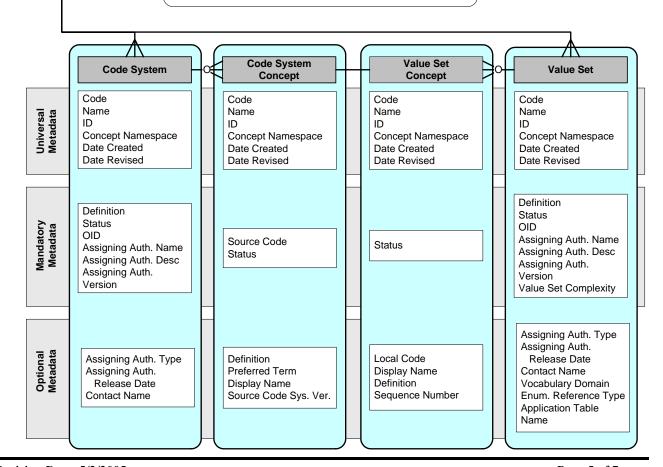Required for this object

Optional Metadata
Desired but not required

Additional Metadata
Data occasionally used

Mandatory Associations
Links to other objects

Optional Associations
Links to other objects which are not required

	Code System	**Code System Concept**	**Value Set Concept**	**Value Set**
Universal Metadata	Code Name ID Concept Namespace Date Created Date Revised	Code Name ID Concept Namespace Date Created Date Revised	Code Name ID Concept Namespace Date Created Date Revised	Code Name ID Concept Namespace Date Created Date Revised
Mandatory Metadata	Definition Status OID Assigning Auth. Name Assigning Auth. Desc Assigning Auth. Version	Source Code Status	Status	Definition Status OID Assigning Auth. Name Assigning Auth. Desc Assigning Auth. Version Value Set Complexity
Optional Metadata	Assigning Auth. Type Assigning Auth. Release Date Contact Name	Definition Preferred Term Display Name Source Code Sys. Ver.	Local Code Display Name Definition Sequence Number	Assigning Auth. Type Assigning Auth. Release Date Contact Name Vocabulary Domain Enum. Reference Type Application Table Name

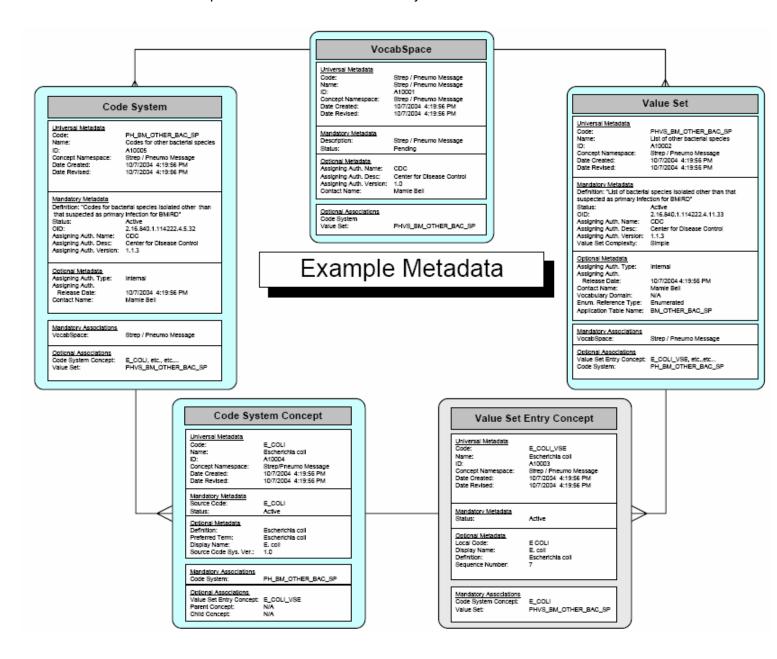## 2.2.   PHIN VOCABULARY METADATA DEFINITIONS

Metadata Property	Definition
Code	Unique alpha-numerical identifier for a vocabulary object.
Name	Unambiguous label for a vocabulary object.
ID	Unique numeric identifier for concept in a Namespace.
Concept Namespace	A segmented and assigned area within Apelon DTS where the vocabulary object is found.
Date Created	Date the vocabulary object is created.
Date Revised	Date the vocabulary object was last revised.
Status	Current state of a vocabulary object (e.g., under development, developed, pending, approved, and complete).
Definition	Concise explanation of the meaning of the vocabulary object.
OID	The Object Identifier of the vocabulary object.
Assigning Authority Name	The name of the authority authoring the vocabulary object.
Assigning Authority Description	The description of the authority authoring the vocabulary object.
Assigning Authority Type	Defines whether this vocabulary object is internal to or external to the CDC
Assigning Authority Version	The version identifier for the vocabulary object according to the assigning authority.
Assigning Authority Release Date	Date vocabulary object was released for use.
Value Set Complexity	Defines whether the value set is atomic or composed of other value sets.
Contact Name	Person or organization who can be contacted to provide more information on the vocabulary object.
Enumeration Reference Type	Defines whether value set concepts are explicitly stated or defined by reference to a node within a standard vocabulary hierarchy.
Vocabulary Domain	Specifies the semantic meaning of the collection of concepts. Vocabulary Domains are high level general semantic categories.
Application Table Name	Identifies the application table associated with the Value Set.
Local Code	Code specific to a given application usage.
Display Name	Name used when displaying the vocabulary object.

Sequence Number	Orders value set concepts within a value set.
Preferred Term	Most commonly understood label for the concept.
Source Code	Standards-based machine-readable code for the concept.

2.3.   PHIN VOCABULARY METADATA EXAMPLE

Below is an example instance of PHIN Vocabulary Metadata.